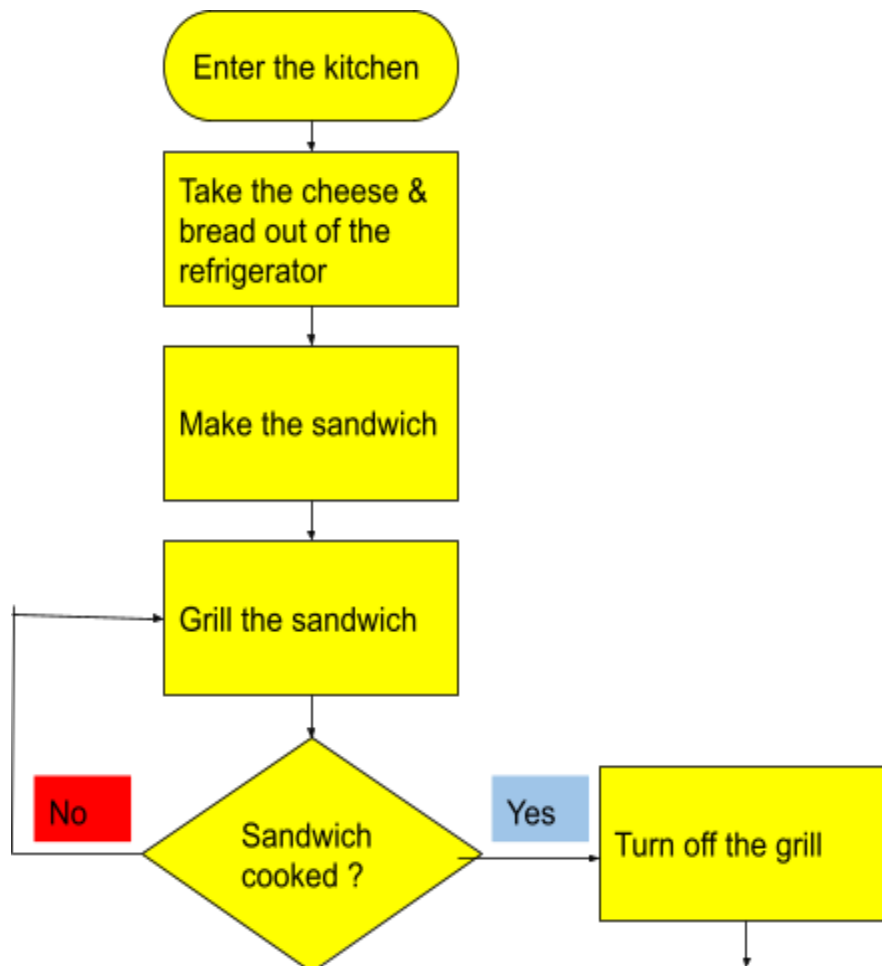


Exercise - Algorithms and Flowcharts

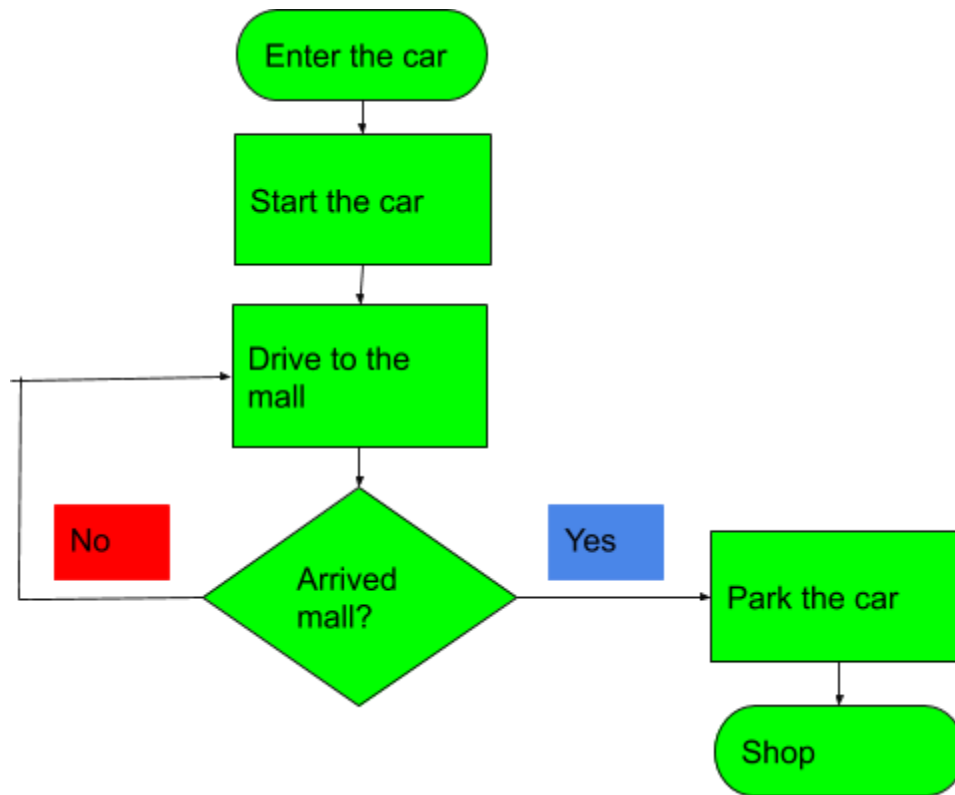
1) Choose two of the following six choices below (from a - f) from the list below and create algorithms for the day-to-day activities. Document any significant steps! Review the posted PowerPoint for examples.

- a. Making a sandwich
- b. Going to the mall
- c. Preparing to take a vacation
- d. Doing laundry
- e. Ordering lunch at a fast food restaurant
- f. Your typical school week

Answer:



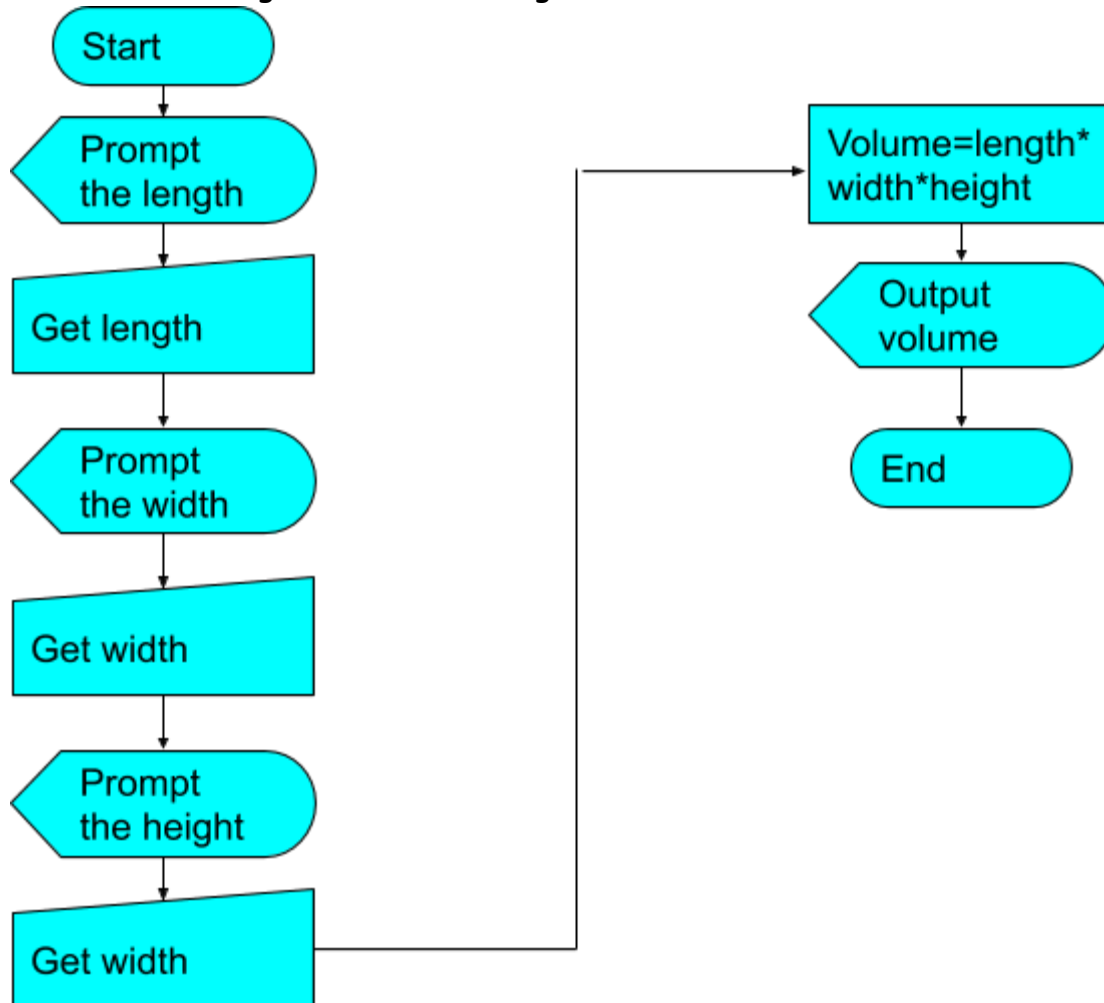
Exercise - Algorithms and Flowcharts



Exercise - Algorithms and Flowcharts

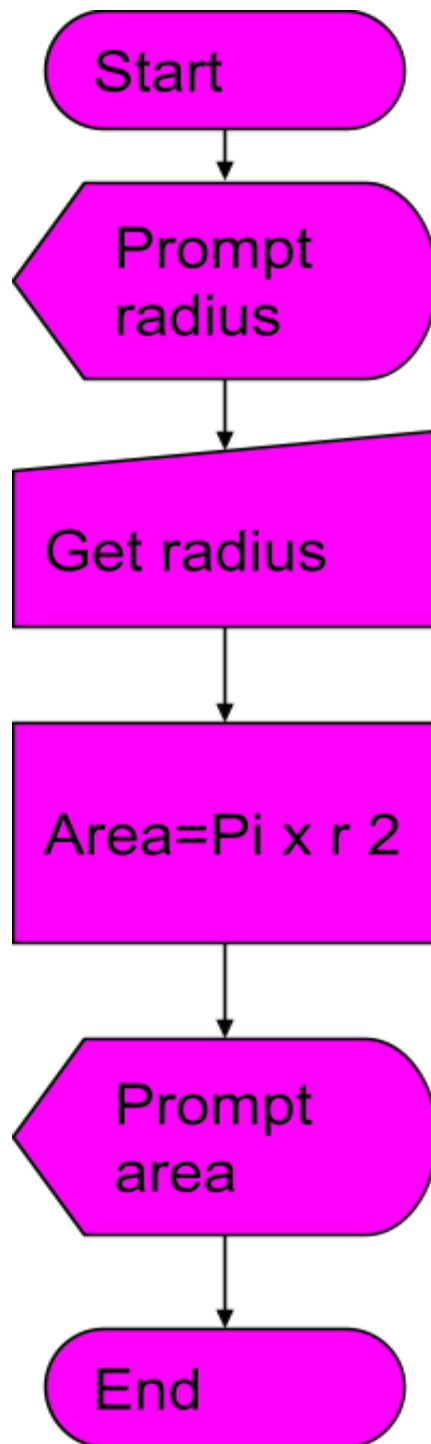
2) Create algorithms and flowcharts for the following:

- a. Find the volume of a rectangular prism after prompting for length, width, and height.



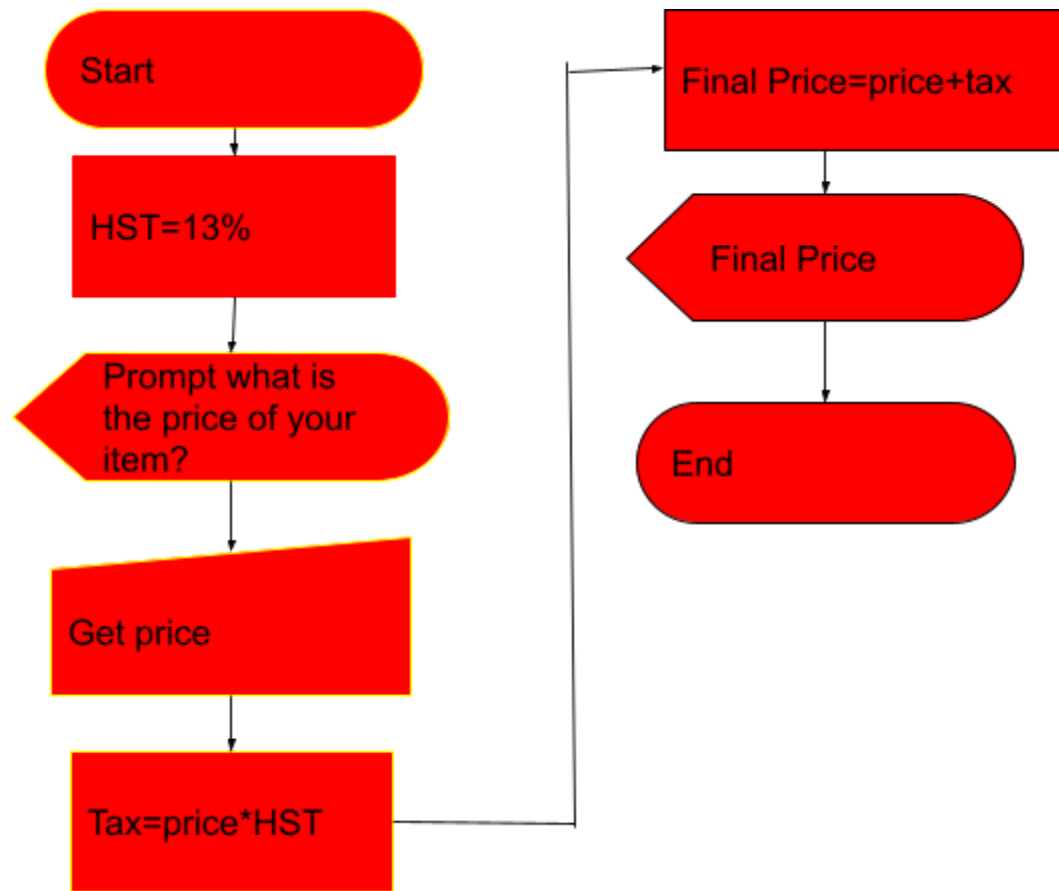
- b. Calculate the formula: $\text{Area (of a circle)} = \pi \times r^2$

Exercise - Algorithms and Flowcharts

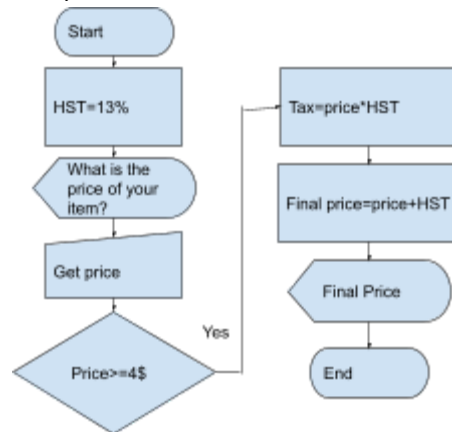


- c. Create a constant for HST (0.13) and prompt for a price and calculates and outputs the final price.

Exercise - Algorithms and Flowcharts

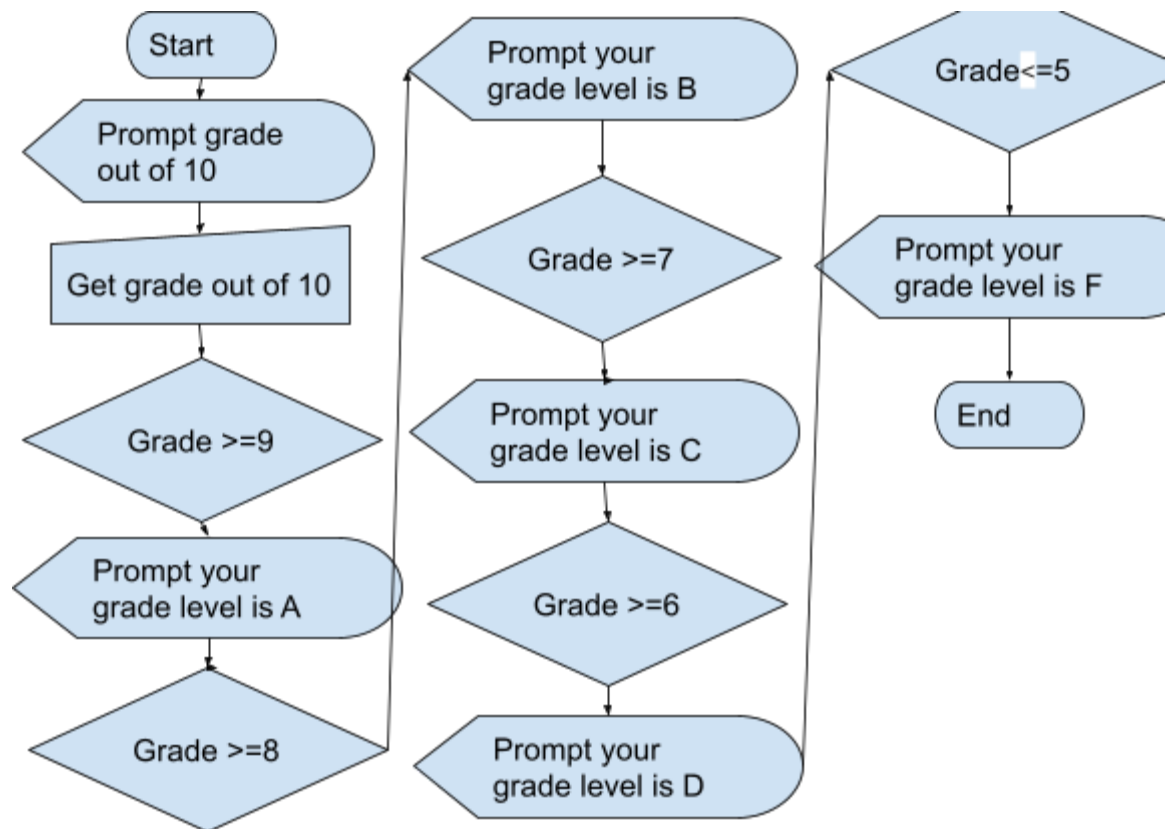


- d. Prompt for the price of a fast food meal and calculate and output the final price after taxes if the price is greater than \$4.00.



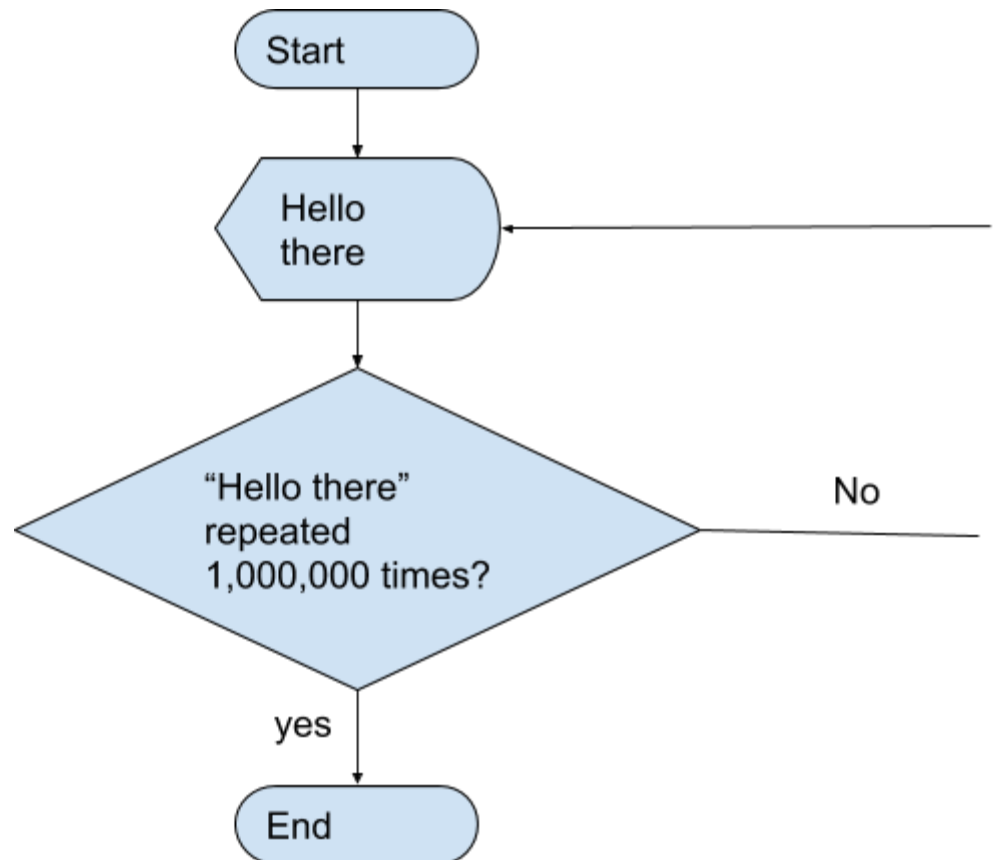
- e. Prompt for the price of a mark out of 10. The program will output the appropriate grade level (A, B, C, D, or F)

Exercise - Algorithms and Flowcharts



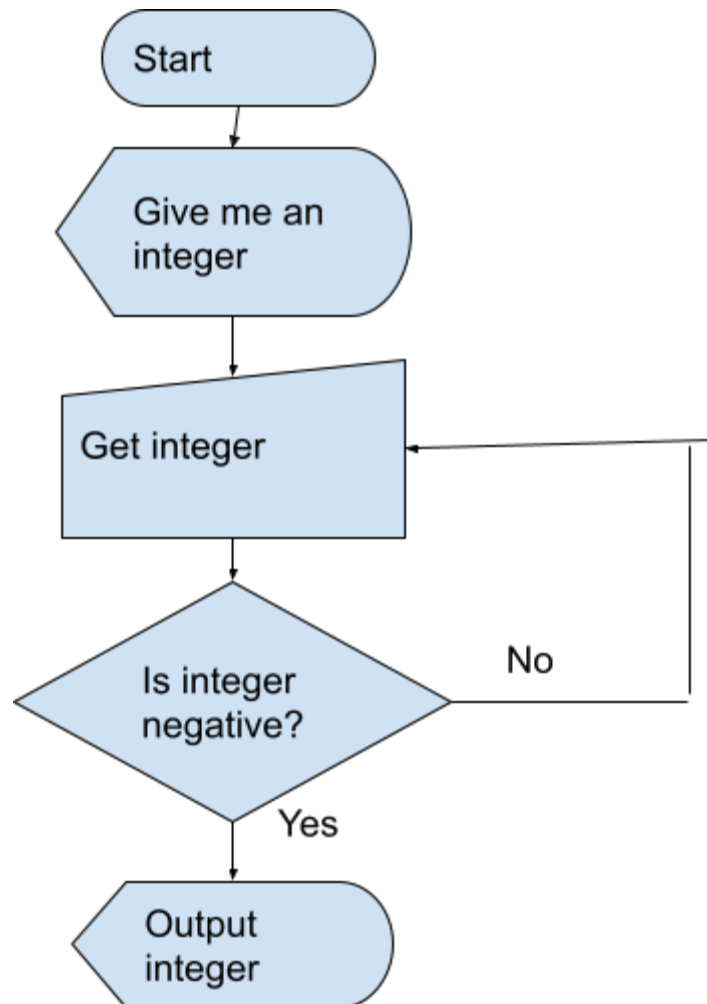
- f. Output the line "Hello there" 1,000,000 times!! **Hint:** You need to use repetition here using the decision block. Use a variable to keep track of how many times you need to repeat it and use the value in your condition to see if it repeats.

Exercise - Algorithms and Flowcharts



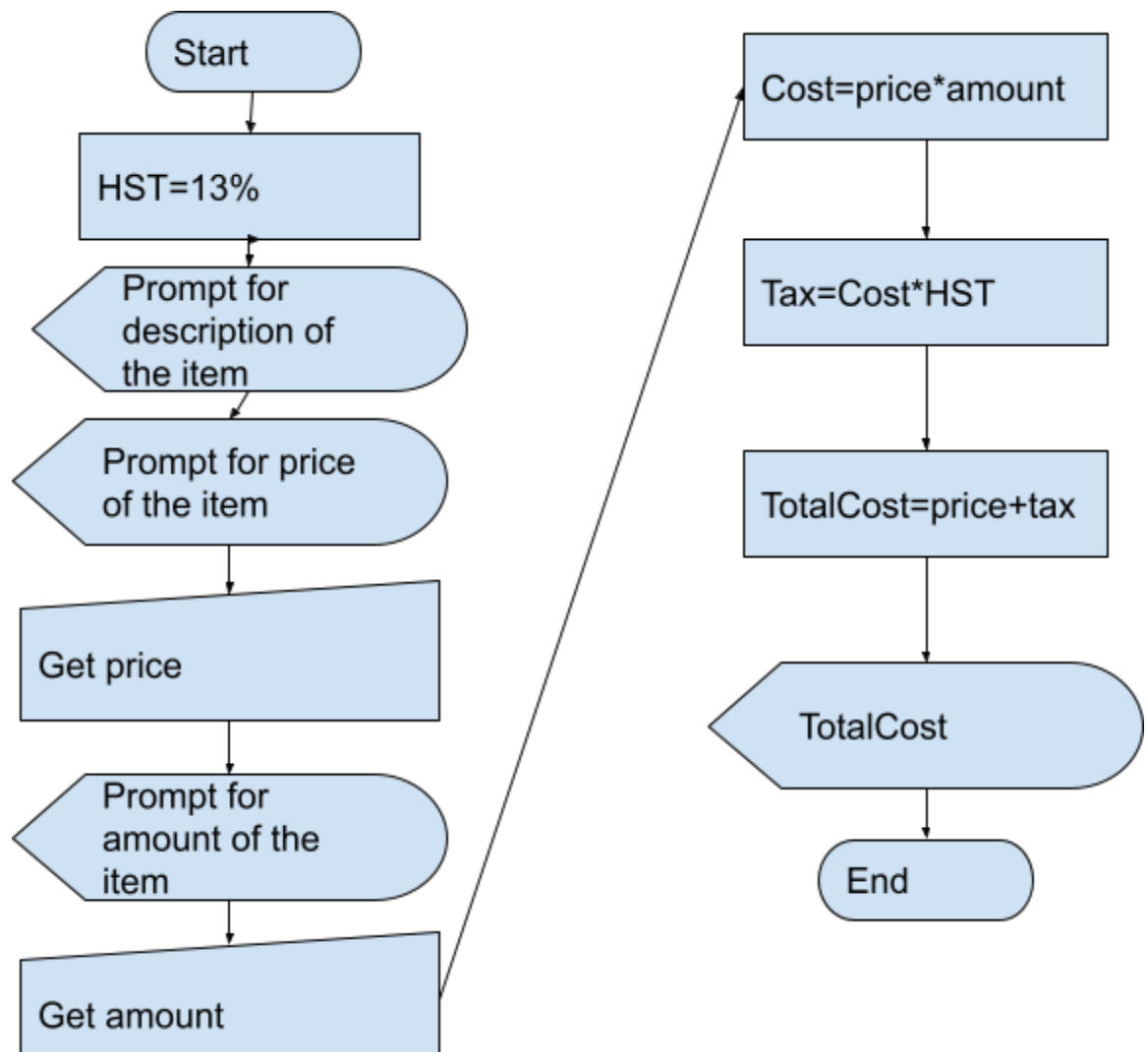
- g. Continually prompt the user for a number until a negative number is entered. The program will calculate and output the sum of the numbers.

Exercise - Algorithms and Flowcharts



- h. Create a program that will prompt the user for an item description (string), the price of the item (float), and the quantity (int). The program will output the final cost including all taxes.

Exercise - Algorithms and Flowcharts



Sample Output

Enter the description:

Volleyball

Enter the price:

39.99

Enter the quantity:

4

RECEIPT

Description	QTY	price	Subtotal
Volleyball	4	\$39.99	\$159.96

GST: \$8.00

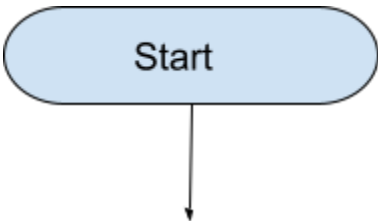
PST: \$12.80

Total: \$180.76

Exercise - Algorithms and Flowcharts

Use this [Google Doc](#) to create the flowcharts. If you do not know how to insert the flowchart element, review the related PowerPoint slides.

Answers (algorithm + flowchart for each):

a.	<p>Algorithm:</p> <p>Flowchart: (double click on the drawing below to edit. This is just to get you started).</p> 
b.	
c.	
d.	
e.	
f.	
g.	
h.	

Exercise - Algorithms and Flowcharts